

## DISCLOSURES UNDER CONSIDERATION

Philip Morris Incorporated  
Privileged and Confidential

21 January 1982

Code 1 - Offensive/Urgent  
Code 2 - Defensive/Urgent  
Code 3 - Offensive/Normal  
Code 4 - Defensive/Normal

653 A METHOD FOR PREPARING A RECONSTITUTED TOBACCO  
PRODUCT USING PRECIPITATION/COAGULATION OR CROSS-  
LINKING TECHNIQUES

G. Keritsis  
Tobacco Materials/Burns/Gannon

The disclosure relates to smoking materials and the processes for making them through the use of extrusion and/or coating techniques for tobacco smoking formulations.

Related to 641 and 1038; see also 689.

Inskeep/F&N/Shaw

1-9-81 New examples received from inventor.  
1-19-81 File reopened.  
2-19-81 Further write-up received from inventor.  
3-31-81 Further write-up received from inventor.  
4-10-81 Disclosure materials to Depaoli for evaluation.  
4-21-81 Disclosure materials returned by Depaoli--possible conflict of interest.  
5-18-81 Recommend sending to F&N ASAP.  
6-10-81 Discussed with F&N in connection with 1038, etc.  
6-25-81 Disclosure to F&N for evaluation.  
7-21-81 Disclosure to R&G.  
11-11-81 Letter to Shaw: Keritsis believes we should proceed.  
12-28-81 PM annual report 81-210 to F&N.  
1-6-82 Brought up during Shaw visit here.

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0000015964

796 BIOSYNTHESIS OF A TOBACCO FLAVORANT OR TOBACCO SMOOTHER--FERMENTED TOBACCO

B. Semp, D. Teng, and S. Tenhet  
Biomaterials/Whidby/Farone/Lowitz

Organisms obtained from fermented tobacco are transferred into sterile tobacco extracts and by employing various fermentation techniques, flavorants similar to those present in fermented tobacco are produced. These flavorants may then be applied to various tobacco materials to enhance or enrich their subjective organoleptic characteristics.

Inskeep  
CODE 2

10-28-77	Disclosure received.
8-78	Preliminary search completed on PM data base.
3-79	Experimental work underway.
9-6-79	Additional art found on "accelerated fermentation" and forwarded to inventors. Similar concepts disclosed in US 516778 and 1262622.
9-10-79	Memo to inventors reviewing prior art.
9-79	Search requested from outside firm.
10-15-79	Search received; results under evaluation; report to be written.
6-24-80	Memo to inventors requesting a review of memo dated 10 September 1979. Awaiting response regarding search results.
7-24-80	Report of search results written by B. Monroe and sent to inventors.
9-10-80	No response yet from inventors regarding search results.
3-2-81	Note to Dr. Farone regarding status; he responded indicating that this particular concept will be actively pursued.
6-29-81	Recommend sending to F&N.
12-81	No further input presently expected; proceed with filing.

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0000015965

800 COLOR AND ODOR REMOVAL FROM UNCURED TOBACCO

B. Semp and D. Teng  
Biomaterials/Whidby/Farone/Lowitz

Green tobacco is treated with a lipase enzyme to remove lipids. The green odor is eliminated and smoking quality improved.

INACTIVE    Inskeep  
CODE 2  
11-10-77    Disclosure received.  
8-78        Preliminary search completed on PM data base.  
3-79        Experimental work completed.  
9-11-79     Search requested from outside firm.  
10-15-79    Search received; results under evaluation; report to be  
              written.  
6-15-80     Preliminary draft underway.  
7-7-80       Examples to inventors for review; specific information was  
              requested.  
7-24-80     Search report written by B. Monroe and sent to inventors.  
9-10-80     No comments from inventors at this time re memo of 7-7 or  
              search results.  
10-22-81    Memo to Teng: we will shelve unless you have other input.  
12-29-81    Inactivated pending availability of further info.

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0000015966

829 ON-LINE QUANTITATION OF PLASTICIZER IN FILTER RODS

D. Watson and W. Harvey  
Analytical Research/Bourlas/Farone/Lowitz

The device would provide for measurement of absorbed energy at selected microwave frequencies as this energy is directed through the filter rods on a maker. These measurements, once calibrated against plasticizer content of the filter material, would be used through a feed-back circuit to control the amount of plasticizer added.

Related to 877.

Sarofeen

CODE 4

4-24-78 Disclosure received.

8-18-78 This device functions similarly to very close art in-house and in a prior art reference. Under advisement pending further development.

1-80 This case will be reevaluated in view of Steinbrecher case which should be filed soon.

3-7-80 Disclosure sent to WLKT for application preparation.

4-17-80 Torrente visit scheduled.

6-17-80 Discussed with Torrente.

8-21-80 Asked inventors for more info in order to proceed with application.

1-15-81 Info not received to date.

3-23-81 WLKT instructed not to do any further work on this case.

5-18-81 Recommend sending to F&N ASAP.

8-29-81 Memo to SAH asking her to prompt a decision regarding disposition of this case.

9-9-81 Farone to send memo concerning disposition.

1-4-82 SAH is monitoring ongoing work.

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0000015967

836 BONDING OF POLYPROPYLENE WRAP TO ITSELF BY LASER  
IRRADIATION

W. Farone, A. Lilly, Jr., P. Martin, and W. Claflin  
Physical Research/Kassman/Farone/Lowitz  
Cigarette Development/Gauvin/Meyer

Techniques for bonding two sheets together at high speed using focussed (2 focal length) CO<sub>2</sub> laser beam. Bonded area around 0.008 diameter. with reflecting foil beneath the wraps speed for bonding was 590 feet/minute with 40-60 watts power.

Sarofeen

CODE 1

5-23-78	Disclosure received.
7-12-78	Search requested from outside firm.
7-28-78	Search received—sent to Farone for evaluation.
	Final disclosure details expected following testing.
11-1-78	Meeting with Farone et al—special laser has to be ordered.
8-79	Testing now in progress.
11-19-79	Laser has been received and testing is active.
1-24-80	Memo to Farone indicating that work is progressive.
6-27-80	Work is still proceeding—waiting for further details.
9-4-80	Disclosures now in process of preparation by inventors.
1-15-81	Disclosure not received to date.
9-10-81	Work continues and best mode is being sought.

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0000015968

840 METHOD FOR REDUCING CO DELIVERY IN NONFILTERED CIGARETTES

R. Ikeda  
Cigarette Development/Gauvin/Meyer

A cigarette is made with a wrapper selected to pass through it gases of specific molecular size. Ducts are provided for passing a maximum of the smoke volume continuously to the wrapper to maximize transfer of the said gases through the paper. Small gas molecules exit into the ambient air and out of the smoke stream prior to entering the smoker's mouth.

INACTIVE Sarofeen  
CODE 4  
6-23-78

Disclosure received.

Awaiting tests by inventor to develop method.

Close art.

New disclosure to be submitted by Ikeda and Houck.

8-30-79 Talked with Houck—project still alive but the way to go with the construction is still being determined.

4-14-80 Waiting for further details.

9-4-80 New details not received to date.

11-4-80 Reviewed latest Filtrona samples with Ikeda.

1-15-81 New details not received to date.

12-30-81 Inactivated.

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0000015969

894 USE OF PIPERAZINES AS FLAVORANTS AND/OR COOLING COMPOUNDS

W. Edwards and Y. Houminer  
Chemical Research/Sanders/Osdene

Tobacco flavorant and/or cooling compounds selected from 1,4-disubstituted pyrazines and alkylpiperazines wherein the 1,4-substituents are acyl, sulfonyl and carbamido are disclosed.

Inskeep  
CODE 4

5-7-79 Disclosure received.  
11-20-79 Experimental and synthesis work completed; analytical smoking data will be obtained in the near future.  
3-14-80 Sanders indicated that the work was near completion. A draft should be ready shortly.  
9-10-80 Houminer indicated that they will organize data and submit for application.  
4-13-81 Formal disclosure being prepared by Houminer.  
9-17-81 Work completed, awaits inventors' write-up.

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897 SYNTHESIZING PYROLYTIC PRECURSORS TO PRODUCE ALDEHYDIC-TYPE FLAVORANTS

RTD 6

M. Bourlas and H. Grubbs  
Chemical Research/Sanders/Osdene  
Analytical Research/Bourlas/Farone/Lowitz

Polymeric flavorants release compounds having controlled thermal decomposition properties producing aldehydic-type flavorants on combustion are disclosed. Prior to smoking, the compounds are non-volatile and non-migratory.

INACTIVE Inskeep  
CODE 2

5-7-79 Disclosure received—lacks detail.  
9-4-79 Preliminary synthesis of monomers underway.  
1-25-80 Examples prepared for subjective evaluation.  
3-80 Inventors hope to complete this project by the end of August.  
6-30-80 Project being actively pursued by inventor Grubbs and assistant. Should be completed by end of summer.  
9-10-80 Monomer synthesized and attempts to polymerize underway according to Grubbs.  
6-17-81 Grubbs indicates that experimental work is nearly completed.  
11-2-81 Inactivated pending availability of further info.

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0000015970

925 NWA IMPROVEMENTS

W. Nichols  
Cigarette Development/Gauvin/Meyer

Sarofeen

9-14-79 Disclosure logged in - inventor notified.  
1-24-80 One case (PM 914, Gergely) based on these improvements has been allowed.  
4-14-80 Awaiting further disclosures and developments.  
6-27-80 Awaiting further disclosure and developments.  
9-4-80 New material not yet received.  
1-15-81 Inventor awaiting input re permission to disclose further data.

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933 SPIRAL-WOUND PACKED BED BIOCATALYTIC REACTOR

H. Bravo  
Biomaterials/Whidby/Farone/Lowitz

The invention involves a spiral-wound packed bed reactor consisting of a tube containing a flexible foam which may be smooth or contain indentions. On this foam are adhered segmented packets of encapsulated microorganisms which perform specific biochemical reactions. The encapsulated cells are segmented to facilitate and control flow rates and prevent compaction.

Palmer/F&N/Haley

CODE I

11-2-79 Disclosure received--inventor notified.  
12-79 Assigned to Hutcheson.  
1-8-80 Discussed with inventor and manager. Must investigate prior art before processing.  
2-11-80 Inventor to organize data for disclosure.  
3-29-80 Met with Gillis of WLKT to discuss disclosure and state of the art.  
7-22-80 Memo to inventor with copy of pertinent paper for review of data and other prior art papers; state of the art search on biocatalytic reactors requested.  
8-1-80 Search results received. Several patents, numerous papers and thesis are of interest.  
1-81 Gillis indicated she will have comments regarding all cases related to immobilization shortly.  
4-81 Case placed on "hold".  
5-18-81 Discussed with F&N.  
6-29-81 Recommend sending to F&N for application preparation.

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0000015971



935 MATERIALS AND METHOD FOR THE MANUFACTURE OF PELLETS (PI)

H. Bravo

Biomaterials/Whidby/Farone/Lowitz

The invention is a method for producing pellets containing live microbial cells or active enzymes. To make the pellets, the cell or enzyme solution is reacted with celite 545 (filter aid), glutaraldehyde, and polyethyleneimine, which are added sequentially. The end product consists of highly permeable pellets in which the protein on the outer wall of the microorganism or on the enzyme has reacted with the polymeric ingredients added.

Palmer/F&N/Haley

CODE 2

11-5-79	Disclosure received—inventor notified.
12-79	Assigned to Hutcheson.
1-8-80	Discussed with inventor and manager. Must investigate prior art before processing.
3-5-80	State of the art search requested; papers sent to inventor for review.
3-29-80	Met with Gillis of WLKT to discuss disclosure and state of the art.
3-21-80	Questions on process to inventor.
7-24-80	Search results to inventor and Gillis; Gillis to determine patentability.
8-25-80	Discussed with Gillis during visit.
10-20-80	Celite info to Gillis.
1-81	Gillis indicated she will have comments regarding all cases related to immobilization shortly.
4-81	Case placed on "hold".
5-18-81	Discussed with F&N.
6-29-81	Recommend sending to F&N for application preparation.

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0000015972

936 MATERIALS AND METHOD FOR THE MANUFACTURE OF PELLETS (PI)

H. Bravo

Biomaterials/Whidby/Farone/Lowitz

The invention is a method for producing pellets containing live microbial cells or active enzymes. To make the pellets, the cell or enzyme solution is reacted with celite 545 (filter aid), glutaraldehyde, and polyethyleneimine, which are added sequentially. The end product consists of highly permeable pellets in which the protein on the outer wall of the microorganism or on the enzyme has reacted with the polymeric ingredients added.

Palmer/F&N/Haley

CODE 2

11-5-79	Disclosure received—inventor notified.
12-79	Assigned to Hutcheson.
1-8-80	Discussed with inventor and manager. Must investigate prior art before processing.
3-5-80	State of the art search requested; papers sent to inventor for review.
3-29-80	Met with Gillis of WLKT to discuss disclosure and state of the art.
3-21-80	Questions on process to inventor.
7-24-80	Search results to inventor and Gillis; Gillis to determine patentability.
8-25-80	Discussed with Gillis during visit.
10-20-80	Celite info to Gillis.
1-81	Gillis indicated she will have comments regarding all cases related to immobilization shortly.
4-81	Case placed on "hold".
5-18-81	Discussed with F&N.
6-29-81	Recommend sending to F&N for application preparation.

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0000015973

937 SAPONIFIED UNSATURATED FATTY ACIDS

H. Bravo

Biomaterials/Whidby/Farone/Lowitz

The invention is a method for producing pellets containing live microbial cells or active enzymes. To make the pellets the cell or enzyme solution is reacted with celite 545 (filter aid); saponified unsaturated fatty acids i.e. sodium oleate, linoleic acid, linoleic acid, Joy liquid soap, White Dive liquid soap, etc. and polyethyleneimine, which are added sequentially. The end product consists of highly permeable pellets in which the protein on the outer wall of the microorganism or on the enzyme has reacted with the polymeric ingredients added.

Palmer/F&N/Haley

CODE 2

11-5-79	Disclosure received—inventor notified.
12-79	Assigned to Hutcheson.
1-8-80	Discussed with inventor and manager. Must investigate prior art before processing.
3-5-80	State of the art search requested; papers sent to inventor for review.
3-29-80	Met with Gillis of WLKT to discuss disclosure and state of the art.
3-21-80	Questions on process to inventor.
7-24-80	Search results to inventor and Gillis; Gillis to determine patentability.
8-25-80	Discussed with Gillis during visit.
10-20-80	Celite info to Gillis.
1-81	Gillis indicated she will have comments regarding all cases related to immobilization shortly.
4-81	Case placed on "hold".
5-18-81	Discussed with F&N.
6-29-81	Recommend sending to F&N for application preparation.

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0000015974

946 AIR FLOW MEASURING DEVICE

R. Gaudlitz  
Engineering Services/Mutter/Gannon

The object of the invention is to provide a special air flow measuring device which measures flow in a wide variety of applications and a further object is to provide a simplified apparatus for doing the measurement.

Related to PM 802, US 4198854

INACTIVE Sarofeen

1-3-80 Disclosure received—inventor notified.  
1-21-80 Assigned to Sarofeen.  
3-7-80 Disclosure sent to WLKT for application preparation.  
9-4-80 Impacts on a prior PM case—further consideration needed.  
12-1-80 Memo to inventor requesting further data.  
1-15-81 Further data received—interview with inventor needed to clarify invention.  
3-23-81 WLKT instructed not to do any further work on this case.  
5-18-81 Sarofeen to send memo suggesting inactivation.  
7-8-81 Memo to inventor suggesting inactivation unless additional data is available.  
11-4-81 Inactivated.

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φ0000015975

950 APPLYING ADHESIVE TO TIPPING PAPER .

F. Sherwood and T. Van Auken  
Tobacco Services/Osmalov/Gannon  
Physical Research/Kassman/Farone/Lowitz

Adhesive can be applied to tipping paper in a skip-tip pattern using nozzles with a steady flow. This can be achieved by either of two methods. Method A: A masking belt, with the intermittent part of the skip-tip pattern cut in it as openings, passes between a set of nozzles and the tipping paper. The masking belt is then drawn away, and a second set of nozzles completes the skip-tip pattern by applying adhesive to areas requiring an uninterrupted laydown of adhesive. Method B: The skip-tip pattern is obtained by spraying a stream of adhesive droplets through an electrical system which puts a charge on the droplets, and then deflects the droplets from the paper where dry areas are required using an electric field.

Schardt  
CODE 2

2-1-80	Disclosure received—inventors notified.
3-14-80	Disclosure sent to WLKT for application preparation.
3-19-80	In-house search completed—results to inventors/Kothe.
6-20-80	Remarks from T.V. on search.
1-14-81	Outside search completed; questions being readied by WLKT.
3-23-81	Letter to WLKT stating that we would like to take this case off their hands unless they have a draft nearly finished.
3-27-81	Search results received.
5-18-81	Recommend sending to F&N ASAP.
9-81	Reassigned to Schardt.

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0000015976

961 CIGARETTE PACKAGING

Engineering/Kay/Pasquine

Open-ended, semi-rigid outer sleeve for packaging cigarettes.

INACTIVE Schardt  
4-16-80 Disclosure received from J. Kay—notified.  
4-16-80 Search requested from outside firm.  
5-9-80 Search received; memo communicating results to Kay.  
12-8-81 Memo recommending inactivation—expense of patent protection not justifiable.  
12-18-81 Inactivated.

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962 CARBONATED INSTANT SOFT DRINK

A. Lendvay  
S.D. Applications Laboratory/Assar

Related to 960.

Inskeep  
4-16-80 Disclosure received—inventor notified.  
5-7-80 Questions to inventor.  
6-20-80 Further disclosure received.  
1-82 Recommend inactivation.

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995 LASER TEMPERATURE STABILIZATION AND DEW POINT CONTROL SYSTEM

E. Grollimund  
Engineering/Tew/Pasquine/Kay

A method of increasing laser power output per unit of input power by controlling and adjusting air humidity and temperature and oil temperature.

Sarofeen  
9-23-80 Disclosure received—inventor notified; assigned to Sarofeen.  
1-15-81 996 combined herewith.  
1-21-81 Disclosure to WLKT for application preparation.  
3-23-81 WLKT instructed not to do any further work on this case.  
5-18-81 For discussion with F&N.  
10-2-81 US 4286604 to Shaw.  
1-5-82 Under study to determine advisability of filing.

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0000015977

997 FILTER ROD GROOVING TECHNIQUE

W. Mutter  
Engineering Services/Mutter/Gannon

Related to 1001, FTR 1034, and 1007.

Palmer  
10-2-80 Disclosure received—inventor notified.  
10-3-80 Letter to Kothe asking for analysis and opinion.  
10-13-80 Torrente visit.  
3-23-81 WLKT instructed not to do any further work on this case.  
5-18-81 For discussion with F&N.  
6-25-81 Needs to be coordinated with other Barclay-type cases.  
8-13-81 No U.S. filing.

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1002 APPARATUS TO ARRANGE TOBACCO LEAVES IN PROPER ORIENTATION

D. Teng  
Biomaterials/Whidby/Farone/Lowitz

This invention is for a device to arrange tobacco leaves in a proper orientation so that the tips of tobacco leaves can be mechanically removed (tipping) before the stems are removed. Loose tobacco leaves are placed on a first conveyor. As the leaves fall off from the first conveyor the heavier end (stem-end) will go down first. When the leaves get to the slanted bottom of the tower the stem ends will be directed toward frond. Leaves will be carried by a second conveyor already oriented in the same direction. When the leaves hit a third conveyor, which is slanted and running perpendicular to the second conveyor they will be even at the stem ends. They can go through the tipping machine in a properly oriented manner.

INACTIVE Blish  
CODE 2  
11-17-80 Disclosure received—inventor notified.  
11-25-80 Search requested.  
3-9-81 Search results to inventor for review.  
12-3-81 Inactivated—close prior art.

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0000015978

1003 CIGARETTE

T. Laszlo

A cigarette that would be a composite having a core of normal filler, surrounded by an outer layer of tobacco treated to be incapable of sustaining combustion if not being puffed. Thus, only the core would sustain static burning. Since the core would be "normal" it would restart the rest once puffing was resumed. But this arrangement would help to avoid fires caused by contact with fabrics.

Palmer

11-19-80 Disclosure received—inventor notified.

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1004 APPLICATION OF SOLID TOBACCO FLAVOR COMPOUNDS TO TOBACCO

F. Sherwood, T. Skidmore, J. Kliewer  
Tobacco Services/Osmalov/Gannon

A tobacco flavor compound is dispersed in a standard tobacco casing or after-cut solution and subjected to high shear mixing to reduce the particle size of the compound. The mixing or homogenizing can be accomplished in any of several commercially available homogenizers. Once mixed the dispersion is sprayed onto tobacco using conventional spraying techniques.

Palmer

11-20-80 Disclosure received—inventors notified.

This disclosure was requested by Palmer prior to Sherwood's contact with outside party to run tests.

5-18-81 Awaiting results of development work; sending memo to that effect.

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1009 TIPPING PAPER WITH PRETREATED ADHESIVE

C. Hoelzel  
Physical Research/Kassman/Farone/Lowitz

INACTIVE

Inskeep  
CODE 1

1-19-81 Oral disclosure to Hutcheson—inventor notified of PM number.

6-27-81 No formal written disclosure to date.

1-14-82 Inactivated per Hutcheson and Palmer.

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0000015979



**1010** HEATED DIE FOR CARBONIZED MATERIAL WITH ESSENTIALLY  
CIRCULAR CROSS-SECTION

D. Full  
Biomaterials/Whidby/Farone/Lowitz

Blish  
CODE 4

1-21-81 Disclosure received—inventor notified.  
6-8-81 Patentability search requested from K&S.

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**1011** EXPANDED TOBACCO—PROCESS IMPROVEMENT

T. Laszlo

Palmer  
1-22-81 Disclosure received—inventor notified.

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**1013** SELF-CLEANING VACUUM PORT

E. Grollmund and D. Brookman  
Engineering/Tew/Hayward/Pasquine/Kay

Related to 1042

Blish  
2-5-81 Disclosure received—inventors notified.  
6-1-81 Prior art search requested.

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**1014** JET INJECTORS

R. Jenkins, Jr.  
Chemical Research/Sanders/Osdene

Use of modified "jet injectors" of the type used for human immunizations to add flavors and/or additives to the cigarette rod on the conventional cigarette making machine prior to the cutting of the rod to cigarette length.

Palmer  
2-13-81 Disclosure received—inventor notified.  
2-81 Searches conducted by TIF and B. Monroe.  
2-16-81 Discussed British 1342931 with inventor. He plans to try out the injection device and will follow-up if he feels it's warranted.

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0000015980

1015 BURN CONTROL AGENTS

R. Jenkins, Jr.  
Chemical Research/Sanders/Osdene

Addition of burn control agents to the central region of a cigarette to reduce sidestream visibility and gaseous smoke. The reduced visibility would improve consumer and non-smoker acceptance.

Palmer  
2-13-81      Disclosure received—inventor notified.

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1020 FLUTED FILTER HOLDER

M. Garthaffner  
Engineering/Tew/Hayward/Kay/Pasquine

This filter holder holds a filter cigarette against a rubber seal which is installed in the insert. In doing so it seals the rear of the filter except for a 4 mm diameter hole through which smoke is drawn. The rubber seal prevents a by-pass of the filter.

Blish  
2-25-81      Disclosure received—inventor notified.  
8-17-81      Memo to inventor confirming receipt of disclosure and indicating  
a need to meet and discuss details.

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1021 ACOUSTICAL PANELS

A. Uhler, Jr.  
Engineering/Tew/Hayward/Kay/Pasquine

Object of the invention is to prevent tobacco beetle infestation by using 20 mesh screen in an acoustic absorption panel and yet allowing maximum sound absorption.

Blish  
2-25-81      Disclosure received—inventor notified.

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0000015981

**1022** ACOUSTICAL BAFFLES

A. Uhler, Jr.  
Engineering/Tew/Hayward/Kay/Pasquine

Object of the invention is to prevent tobacco beetle infestation by use of spunbonded olefin, which is a tough and cleanable and allows good sound absorption, as a facing material on an acoustical absorber.

Blish  
2-25-81 Disclosure received—inventor notified.

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**1023** TOBACCO CUTTER DIAMOND PATTERN

R. Lanier and R. DeVilbiss  
Engineering/Tew/Hayward/Kay/Pasquine

Objects of the invention are to achieve uniformity in size, to produce a smooth edge when cut, to minimize scrap, and to reduce operational cost.

Blish  
2-25-81 Disclosure received—inventors notified.  
9-18-81 Prototype installation in about 3 weeks.

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**1024** ROTARY SAW BLADE SHEET CUTTER

R. Thatcher and J. Tomanovits  
Engineering/Tew/Hayward/Kay/Pasquine

Objects of the invention include improving rotary cutter for cutting RCB tobacco sheet, reducing the cost of operating and maintaining equipment, and improving product quality.

Sarofeen  
2-25-81 Disclosure received—inventors notified.  
4-12-81 Outside search requested of Kirk & Smith.  
6-1-81 Search results received.

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0000015982

**1027** OXIDATION OF TOBACCO IN PRESENCE OF POLYVALENT METAL  
BASE

N. Rainer  
Tobacco Materials/Burns/Gannon

Objects/advantages: increased CV of tobacco filler by virtue of a stiffening effect; low processing cost; no attritional degradation; no species added foreign to tobacco.

Related to 983.

Inskeep  
3-4-81      Disclosure received—inventor notified.  
1-82      Inventor pursuing.

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**1028** SHUTTLE ASSEMBLY

J. Long  
Plant Engineering/Tew/Hayward

Object of the invention is to reduce spills of palletized loads of cased cigarettes due to table deflection and excessive speed and rough transport, reduce wear of roller ways, reduce horsepower and make moving parts more accessible for preventive maintenance and replacement.

INACTIVE Sarofeen  
3-4-81      Disclosure received—inventor notified.  
6-25-81      Evaluation in progress.  
                 Inactivated.

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**1029** METHOD FOR MAKING SOLUBLE CARBOXAMIDE DERIVATIVES

E. Sanders  
Chemical Research/Sanders/Osdene

Palmer  
3-10-81      Disclosure made orally with notes to Hutcheson—inventor notified of PM number.

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0000015983

**1031** FLAVOR SPRAY NOZZLE ASSEMBLIES

R. Rosemond (hourly)  
Maintenance/Taylor/Remington

Objects of the invention include to give better atomization of the flavoring, improve tobacco heating and absorption qualities for the taking of the flavor, eliminate wet spots, and reduce maintenance.

Blish  
3-16-81 Disclosure received—inventor notified.  
4-15-81 Disclosure reviewed with inventor.  
6-15-81 Patentability search requested from K&S.  
7-27-81 Search completed.  
10-2-81 Search results to inventor for review.

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**1032** IMPROVED PROCESS FOR MAKING 2-SUBSTITUTED PYRROLINES AND PYRROLIDINES

H. Secor  
Chemical Research/Sanders/Osdene

Process provides for the preparation of a variety of new and known compounds by a simplified procedure to give 2-substituted pyrrolines and 2-substituted pyrrolidines.

Inskeep  
3-24-81 Disclosure received—inventor notified.  
9-17-81 No details to report yet.

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**1036** PROCESS FOR THE PREPARATION OF MENTHONE AND MENTHOL

S. Haut  
Chemical Research/Sanders/Osdene

Inskeep  
4-13-81 Disclosure received—inventor notified.  
1-82 Inventor has nothing further as yet.

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0000015984

**1037** MECHANICAL DEVICE FOR UNTYING KNOTS IN BURLAP TOBACCO SHEETS

R. Devilbiss  
Engineering/Hayward/Kay/Pasquine

Blish  
4-13-81 Disclosure received—inventor notified.

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**1041** METHOD FOR MEASURING THE FILLING CAPACITY OF TOBACCO

N. Rainer and J. Hearn  
Tobacco Materials/Burns/Gannon

Tobacco is placed in a vertical cylinder. A weighted piston adjusted to cause a gravimetric force of 1-4 psig is placed upon the tobacco within the cylinder. The resting point of the piston after 5 minutes is noted and the compacted volume of the tobacco is recorded as cc/gram. The test is repeated a second time with a different weight of sample and the compacted volume is again expressed as cc/gram. Such two determinations are preferably on a straight line portion of a curve of cc/gram vs. sample weight. The straight line portion of said curve is then extrapolated to the zero sample weight axis to give an intrinsic cylinder volume which is more meaningful than determinations measured on finite sample weights.

INACTIVE Inskeep  
4-28-81 Disclosure received—inventor notified.  
8-4-81 Memo to Rainer suggesting publication rather than patenting.  
1-14-82 Inactivated per Rainer.

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**1043** APPLICATION OF TOBACCO DUST TO EXPANDED STEM

J. Knight  
Engineering/Pasquine/Kay

Inskeep  
5-5-81 Disclosure received—inventor notified.

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0000015985

**1044** METHOD FOR DETERMINING THE STIFFNESS OF TOBACCO

N. Rainer, J. Hearn, C. McClung  
Tobacco Materials/Gannon/Burns

The stiffness characteristic of tobacco is determined by a method wherein: (a) the CV<sub>o</sub> of the sample is determined, (b) the specific volume (or outer envelope volume of the shred) is determined by immersion in mercury, and (c) the stiffness is expressed as a stiffness index. The stiffness index is a good indication of stiffness of tobacco under conditions where the average tobacco particle length is substantially unchanged, and all measurement factors are held constant.

Related to 1041

Inskip

5-5-81 Disclosure received—inventor notified.

8-4-81 Memo to Rainer suggesting publication rather than patenting.

1-82 Inventor wants to keep active.

\* \* \* \* \*

✓ **1046** METHOD OF LOWERING METAL TO ANION RATIO IN PAPER - R & D-1

R. Green  
New Products/Gauvin/Meyer

Normal sodium citrate applied to wrapper with extra citric acid added to the coating solution such that the solution becomes substantially acid. This coating results in increased molar ratios of citrate to metal. It is believed that this change in the cation to anion ratio results in lower CO and CO per puff delivery. The cation to anion ratio is normally 3:1. Results obtained so far have been for ratios from 1.43:1 to 5.86:1. These results follow a pattern similar to that for humic acid dye additions. This then should apply to both removal of the metal by washing and to lowering the metal to anion ratio of the burn additive.

Inskip

5-20-81 Disclosure received—inventor notified.

7-22-81 Disclosure to SAH for follow-up.

9-17-81 Inventor trying to verify early findings.

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0000015986

## 1050 VARIABLE FLOW RATE FILTERS

W. Gannon and J. Remington  
R&D/Engineering

Novel configuration for a filter which comprised a movable damper (flap) which would remain closed during low flow-rate smoking, thus allowing the majority of the puff to draw in air only. Such a damper would be placed at the junction of the tobacco rod and the filter which would consist of an annulus of cellulose acetate around a hollow core. While the damper would remain closed at 1050 cc, higher flow rates (above 2000 cc) would cause the damper to swing backward and thus allow fresh smoke to enter the mouth.

INACTIVE Blish  
6-18-81 Disclosure received—inventors notified.  
7-29-81 Search results evaluated and sent to inventors for comment.  
11-11-81 Inactive—close prior art.

\* \* \* \* \*

## 1051 VACUUM BELT STRIPPER SHOE

W. Mutter  
Engineering Services/Mutter/Gannon

Schardt  
6-12-81 Disclosure received—inventor notified.

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## 1052 POSITIVE PLUG FEED SYSTEM

M. Barden, W. Pettigrew, A. Collins  
Engineering/Hayward/Kay/Pasquine

Object: to produce additional force that will assist a stream of plugs into a hopper against resistance.

Blish  
6-26-81 Disclosure received—inventor notified.

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0000015987



**1054** A NOVEL METHOD FOR DETERMINING PUFF PROFILES ON FTR  
TAR OF LOW DELIVERY CIGARETTES

E. Thomas  
Analytical/Bourlas/Farone/Lowitz

The object of this work is to develop a means of measuring puff by puff FTC tar for low delivery cigarettes. The advantages of this system are rapid data reduction and display, greater sensitivity than any currently known procedure, a unique type of smoking system, and smoke trapping system.

Blish  
CODE 4

6-29-81 Disclosure discussed with Blish.

11-18-81 Disclosure reviewed with inventor—search requested.

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**1055** ROTARY CHEVRON SHEET CUTTER

M. Anderson and R. Thatcher  
Engineering/Kay/Pasquine

Sarofeen

7-1-81 Disclosure received—inventors notified.

1-5-82 Possible conflict with PM 1023.

\* \* \* \* \*

**1056** TOBACCO DRYING

D. Lowitz and J. Crump  
Biomaterials/Whidby/Farone/Lowitz

Schardt  
CODE 2

7-1-81 Disclosure received—inventors notified.

7-10-81 Discussed with inventor Crump; 7-13 discussed with inventor Lowitz.

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0000015988

**1057** IMPROVED DYNAMIC CIRCUMFERENCE GAUGE

C. Irving  
Tobacco Services/Osmalov/Gannon

This invention uses multiple strain gages mounted on two beams of suitable spring constant to detect the size of cigarettes in 2 dimensions. As the size of the cigarette changes, the deflection of the strain gage beam will change and thus the output of the strain gages will change. This has the advantage over the previous disclosure of measuring 2 dimensions of the cigarette and therefore it can more accurately predict the true circumference of the cigarette. Because cigarettes are predominantly elliptical in shape immediately after manufacture, 2 beams can be used to measure the major and minor axis of the ellipse and a more accurate prediction of the circumference can be made.

Related to 958.

COMBINED Blish  
7-8-81 Disclosure received—inventor notified.  
10-16-81 Combined with PM 958 CIP.

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**1058** TOBACCO STORAGE SILO SINUSOIDAL DISCHARGE DEVICE

W. Thomas and D. McKinney  
Manufacturing

The purpose of this invention is to uniformly discharge tobacco or tobacco products from a storage silo at a uniform rate with minimal damage to the material being discharged.

Blish  
7-8-81 Disclosure received—inventors notified.

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**1059** METHOD OF ADDING MENTHOL TO TOBACCO IN THE CLOSING STAGES OF CIGARETTE PROCESSING

D. Lowitz  
Applied Research/Farone

(1) Provide menthol crystals in highly perforated container in path of incoming air to a tobacco pneumatic feed system that carries tobacco to the cigarette makers. (2) Same as (1) only spray liquid menthol in same position. (3) Same as (1) or (2) except provide menthol source in path of incoming air to maker chimney.

Schardt  
7-8-81 Disclosure received—inventor notified.

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0000015989

**1060** RELEASE SYSTEM

Y. Houminer  
Chemical Research/Osdene/Sanders

Palmer/Unassigned  
6-25-81 Disclosure received.

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**1061** FILTER FLAVOR CONCEPTS

W. Nichols, W. Houck, and C. Moogalian  
Cigarette Development/Gauvin/Meyer

A filter which contains a plastic tube which in turn has a flavorant coated or adhering to its inner wall to enhance flavor in ultra low tar cigarettes.

Schardt  
7-13-81 Disclosure received.

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**1062** LASER MICROMETER CURCUMFERENCE GAUGE

W. Nichols  
Cigarette Development/Meyer/Gauvin

The object of the invention is to provide a uniform force on the exterior of a compressible cylindrically shaped article that will preclude the sensing of surface irregularities on the cylinder while being measured.

Schardt  
7-14-81 Disclosure received--inventor notified.  
9-17-81 Discussed with inventor.

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**1063** CASE INSPECTION UNITS

D. Steinbrecher  
Engineering/Cashwell/Hayward/Kay/Pasquine

INACTIVE Schardt  
7-13-81 Disclosure received.  
8-19-81 Meeting with Steinbrecher; awaiting further information.  
11-16-81 Inactivated; decision made not to file--not cost effective.

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0000015390

**1064** TRANSFER DEVICE

J. Wheless  
Engineering/Kay/Pasquine

This device is comprised of pockets (supplied with vacuum) attached to two rotating plates. These plates are rotating about offset center lines. The pockets are held to the plates with a pair of pivots  $op^\circ$  to each other. There is a pair of these pivots at each end of the pockets, which connect the pockets to both plates. The plates are both driven independently at the same speed to reduce the forces on the pivots. As the plates rotate, the pockets are forced to remain parallel and continue facing the outside of the device. This facing the outside allows the product to be picked up or discharged at any point. Remaining parallel allows the product to be transferred from one location to another, or change the direction of movement without changing the product orientation.

Schardt  
7-20-81 Disclosure received—inventor notified.

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**1066** CIGARETTE FILTER CONTAINING A PLASTIC TUBULAR ELEMENT

J. Lephardt and W. Houck  
Cigarette Development/Gauvin Meyer  
Analytical/Bourlas/Farone/Lowitz

Palmer/Unassigned  
CODE 2  
7-23-81 Disclosure received—inventors notified.

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**1067** TIPPING PAPER

D. Lowitz  
Applied Research/Farone

Palmer/Unassigned  
CODE 2  
7-23-81 Disclosure received—inventor notified.

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**1068** LEAF STRIPPER DRUM WITH OVERHEAD DIVERGING STRIPPER CHAINS

F. King, R. Thatcher and M. Anderson  
Engineering/Kay/Pasquine

Palmer/Unassigned  
7-23-81 Disclosure received—inventor notified.

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**1071** IMPROVED FLAVOR CHAMBER LOW DELIVERY FILTER

H. Spielberg  
Flavor Development/Daylor/Meyer

Palmer/Unassigned  
8-3-81 Disclosure received—inventor notified.

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**1072** PUFF PARAMETER ANALYZER

N. Nunnally, J. Washington, and K. Oliver  
Engineering Services/Mutter/Gannon

Palmer/Unassigned  
8-3-81 Disclosure received—inventor notified.

*Inv 82 - Director recommended publication*

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**1073** FRICTIONAL CONTROL OF FILLING POWER OF TOBACCO

D. Lowitz  
Applied Research/Farone

Palmer/Unassigned  
CODE 2  
7-29-81 Disclosure received—inventor notified.

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**1074** TREATMENT OF TOBACCO PARTICLES - R & D 5

G. Keritsis and H. Sun  
Tobacco Materials/Burns/Gannon

Palmer/Unassigned  
8-3-81 Disclosure received—inventors notified.

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**1075** CUT TOBACCO PICKER FOR SIZING AND SEPARATING

R. Thatcher and L. Turano  
Engineering/Hayward/Pasquine/Kay

Object of the invention is to take a feed or pile of whole cut leaf tobacco and end up with a sized, separated, usable filler.

Sarofeen  
8-7-81 Disclosure received—inventors notified.

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0000015992

**1076** LEAF STRIPPER PLATTEN WITH OVERHEAD DIVERGING STRIPPER CHAINS

F. King and R. Thatcher  
Engineering/Pasquine/Kay

Palmer/Unassigned  
8-7-81 Disclosure received—inventors notified.

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**1077** INFINITELY VARIABLE DELIVERY FILTER

J. Adams  
Engineering/Pasquine/Kay

Palmer/Unassigned  
8-1-81 Disclosure received—inventors notified.

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**1078** INTERRUPT AND DIVIDE A LASER BEAM

R. Brinker  
Engineering/Pasquine/Kay

Palmer/Unassigned  
8-7-81 Disclosure received—inventors notified.

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**1079** FLUIDIZED BED VIBRATORY SEPARATOR

R. Thatcher and L. Turano  
Engineering/Hayward/Pasquine/Kay

Object of the invention is to effect a separation of tobacco filler from stem or, or laminate leaf from laminate and stem.

Sarofeen  
8-7-81 Disclosure received—inventors notified.

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**1080** NOVEL CLASSES OF MONOACYLPYRAZINES

D. Williams, E. Southwick, and Y. Houminer  
Chemical Research/Sanders/Osdene

Palmer/Unassigned  
8-11-81 Disclosure received—inventors notified.

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0000015993

**1082** CONTROLLED TOBACCO SIZE

C. Wood

A rotor/cutting device designed to produce a size controlled tobacco material to provide overall larger tobacco pieces from either tobacco leaf or tobacco sheet material in tobacco stemming and tobacco sheet processing.

Blish

8-11-81 Disclosure received—inventors notified.

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**1084** SHOULDER BOX

L. Smith

Engineering/J. Kay/A. Pasquine

Schardt

9-22-81 Disclosure received—inventor notified.

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**1085** PROCESS FOR INCREASING THE CYLINDER VOLUME

E. Mooz

Biomaterials/Whidby/Farone/Lowitz

Palmer

Code I

11-4-81 Disclosure received—inventor notified.

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**1086** A PROCESS TO REMOVE PECTIN FROM TOBACCO FIBER

J. Drake

Engineering/Pasquine/Kay

INACTIVE Inskeep

11-11-81 Disclosure received.

11-11-81 Inactivated pending receipt of further data.

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0000015994

**1087** PROCESS IDENTIFICATION AND CONTROL

E. Grollmund  
Engineering/Pasquine/Kay

Sarofeen  
11-16-81 Disclosure received—inventor notified.

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**1091** TOOL STEEL APPLIED AS CORK CUTTING KNIVES

A. Gillespie and A. Pasquine  
Engineering/Pasquine/Kay

Gregory  
1-5-82 Disclosure received—inventors notified.

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**1092** SMOKING MATERIAL

D. Teng  
Biomaterials/Whidby/Farone/Lowitz

Palmer/Unassigned  
1-7-82 Disclosure received—inventor notified.

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1095 - Various FTO-TAC Delivery Systems  
W. Grollmund  
New Products, Meyer, Grollmund

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